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| 10/824,591 | 04/15/2004 | Norman M. Ladouceur | T8468170US | 6635 |

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| EXAMINER | |
|---|---|
| SITTA, GRANT | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/824,591 | LADOUCEUR ET AL. | |
| | Examiner | Art Unit | |
| | GRANT D. SITTA | 2629 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *11 August 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 April 2009* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-8, 10, 12-22, 24, and 26-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg (WO 99/49443), hereinafter Rosenberg in view of Keyson et al (5,784,052) hereinafter, Keyson further in view of Roderick et al (7,089,292) hereinafter, Roderick.

4. In regards to claim 1, Rosenberg discloses the limitations of a handheld electronic device comprising: a scrollwheel (fig. 1 (16)) for providing input to the handheld electronic device (fig. 1 (12));

a dynamic feedback module connected (fig 2 98,112,114,115) to the scrollwheel for providing a plurality of types of feedback to a (fig 13a-c (270)) user of the handheld electronic device (pg 21 first paragraph and page 26 lines 3-29) in response to rotational motion of the scrollwheel (pg 21, line 20 variety of force sensations), each type of feedback associated with at least one of a plurality of feedback modes (pg 21 first paragraph and page 26 lines 3-29, force denent, spring force, jolt, vibration, etc); and the dynamic feedback module comprising:

means for resisting rotational motion (page 16, line 19-20 and page 22, line 1) of the scrollwheel, the plurality of types (pg 21-26 describe various feedbacks) of feedback comprising resistance (pg 26, lines 15-35) to rotation of the scrollwheel and movement of the scrollwheel in direction toward or away from the user (pg 26, lines 15-35)

a software module (page 11) for selecting a feedback mode from the plurality of feedback modes and activating the associated type of feedback (page 12, lines 1-6) provided by the dynamic feedback module (pg 21, line 20 variety of force sensations).

Rosenberg differs from the claimed invention in that Rosenberg does not *explicitly* disclose and means for providing lateral motion of the scrollwheel. Examiner notes that Rosenberg does teach a force "bump" at page 16 line 12, jolts pg 27, lines 1-7, vibrations pg 27, .

However, Keyson explicitly teaches a system and method for means for providing lateral motion of the scrollwheel (fig. 1 (112) col. 3, lines 18-43 and col. 5, lines 1-60 of Keyson).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Rosenberg to include the use of means for providing lateral motion of the scrollwheel as taught by Keyson in order to communicate with an input device in an ergonomic way and to substantially broaden the scope of applicability of an input device as stated in (col. 1, lines 20-47 of Keyson).

Rosenberg and Keyson fail to expressly teach a software in dependence on triggers from application software on the handheld electronic device and activating the dynamic feedback module to provide the associated type of feedback.

However, Roderick teaches a software in dependence on triggers from application software on the handheld electronic device and activating the dynamic feedback module to provide the associated type of feedback. (fig. 4 and fig. 5 col. 3-4, lines 54-45).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Rosenberg and Keyson to include the use of software trigger from applications on handheld device as taught by Roderick in order to communicate with a handheld device using a non-visual means (col. 2, lines 48-67 of Roderick).

5. In regards to claim 15, Rosenberg teaches a dynamic feedback system for use with a handheld electronic device(fig. 1 (12)); the dynamic feedback system comprising:

a scrollwheel (fig. 1 (16)) for providing input to the handheld electronic device(fig. 1 (12));

a dynamic feedback module (fig 2 98,112,114,115))) connected to the scrollwheel (fig. 1 (16)) for providing a plurality of types of feedback to a user of the handheld electronic device (fig. 1 (12)) in response to rotational motion of the scrollwheel (pg 21, line 20 variety of force sensations), each type of feedback associated with at least one of a plurality of feedback modes (pg 21, line 20 variety of force sensations), the dynamic feedback module comprising:

means for resisting rotational motion (page 16, line 19-20 and page 22, line 1) of the scrollwheel, the plurality of types of feedback comprising resistance to rotation of the scrollwheel and movement of the scrollwheel in direction toward or away from the user (pg 26, lines 15-35)

a software module (page 11) for selecting a feedback mode from the plurality of feedback modes (page 12, lines 1-6) and activating the associated type of feedback provided by the dynamic feedback module (fig 13a-c (270)).

Rosenberg differs from the claimed invention in that Rosenberg does not *explicitly* disclose and means for providing lateral motion of the scrollwheel. Examiner notes that Rosenberg does teach a force "bump" page 16 line 12.

However, Keyson teaches a system and method for means for providing lateral motion of the scrollwheel (fig. 1 (112) col. 3, lines 18-43 and col. 5, lines 1-60 of Keyson).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Rosenberg to include the use of means for providing lateral motion

of the scrollwheel as taught by Keyson in order to communicate with an input device in an ergonomic way and to substantially broaden the scope of applicability of an input device as stated in (col. 1, lines 20-47 of Keyson).

Rosenberg and Keyson fail to expressly teach a software in dependence on triggers from application software on the handheld electronic device and activating the dynamic feedback module to provide the associated type of feedback.

However, Roderick teaches a software in dependence on triggers from application software on the handheld electronic device and activating the dynamic feedback module to provide the associated type of feedback. (fig. 4 and fig. 5 col. 3-4, lines 54-45).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Rosenberg and Keyson to include the use of software trigger from applications on handheld device as taught by Roderick in order to communicate with a handheld device using a non-visual means (col. 2, lines 48-67 of Roderick).

6. In regards to claim 27, Rosenberg method for providing feedback (page 12) on a handheld electronic device (fig. 1 (12)) having a scrollwheel (fig. 1 (16)) and having a dynamic feedback module (page 11, lines 22-37) connected to the scrollwheel for providing a plurality (page 16, lines 1-37) of types of feedback to a user of the handheld electronic device, the dynamic feedback module comprising means for resisting rotational motion of the scrollwheel (pg 27, lines 17-20, pg 24, lines 2—25):

the method comprising the steps of:

providing a user initiated input to the handheld electronic device through rotational motion of (pg 21, line 20 variety of force sensations) of the scrollwheel (fig. 1 (16));

analyzing data associated with the user initiated input (page 12);

deciding if a feedback response is required (page 4-6); and if a feedback response is required, initiating an appropriate feedback mode (page 4-6) that provides as feedback movement of the scrollwheel in a direction toward or away from the user (pg 26, lines 15-35).

Rosenberg differs from the claimed invention in that Rosenberg does not *explicitly* disclose and means for providing lateral motion of the scrollwheel. Examiner notes that Rosenberg does teach a force "bump" on page 16 line 12.

However, Keyson teaches a system and method for means for providing lateral motion of the scrollwheel (fig. 1 (112) col. 3, lines 18-43 and col. 5, lines 1-60 of Keyson).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Rosenberg to include the use of means for providing lateral motion of the scrollwheel as taught by Keyson in order to communicate with an input device in an ergonomic way and to substantially broaden the scope of applicability of an input device as stated in (col. 1, lines 20-47 of Keyson).

Rosenberg and Keyson fail to expressly teach analyzing data associated with the user initiated input, the associated data including triggers or messages from application software executed on the handheld electronic device; deciding if a feedback response is required; and if a feedback response is required, selecting a feedback mode from the plurality of feedback modes; and activating the associated mode of feedback provided by the dynamic feedback module

However, Roderick teaches analyzing data associated with the user initiated input, the associated data including triggers or messages from application software executed on the handheld electronic device; deciding if a feedback response is required; and if a feedback response is required, selecting a feedback mode from the plurality of feedback modes; and activating the associated mode of feedback provided by the dynamic feedback module (fig. 4 and fig. 5 col. 3-4, lines 54-45 triggers Roderick).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Rosenberg and Keyson to include the use of software trigger from applications on handheld device as taught by Roderick in order to communicate with a handheld device using a non-visual means (col. 2, lines 48-67 of Roderick).

7. In regards to claim 2, Rosenberg as modified by Roderick teaches wherein the software module selects the feedback (page 12 "For example, the computer system may provide force feedback commands to the wheel when the user moves the graphical

object against a generated surface such as an edge of a window, a virtual wall, etc." Rosenberg) mode based on feedback data associated with a data page provided by the application software (fig. 4 and fig. 5 col. 3-4, lines 54-45 triggers Roderick). on the handheld electronic device (pages 11-12, and 35 and fig. 11 Rosenberg).

8. In regards to claims 3, 17, and 30, Rosenberg differs from the claimed invention in that Rosenberg does not explicitly disclose wherein the software module selects the feedback mode based on a set of predetermined criteria.

However, Keyson teaches a system and method for wherein the software module selects the feedback mode based on a set of predetermined criteria (col. 2, lines 55-63 of Keyson "Preferably, the tactile feedback means is user-programmable so that the user can select a desired magnitude of the intensity or of another characteristic of the tactile feedback. The user is enabled, for example, by the software application run on the system to set the values of desired parameters that determine the tactile feedback.").

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Rosenberg to include the use of means for selecting a feedback mode based on a set of predetermined criteria as taught by Keyson in order to communicate with an input device in an ergonomic way and to substantially broaden the scope of applicability of an input device as stated in (col. 1, lines 20-47 of Keyson).

9. In regards to claims 4, 18, and 31 Rosenberg as modified by Keyson teaches wherein the predetermined criteria are based on preferences selected by the user (col. 2, lines 55-63 Keyson).

10. In regards to claims 5, 19, and 32 Rosenberg and Keyson as modified by Roderick teaches wherein the predetermined criteria are established for each of the triggers of the application software (fig. 4 and fig. 5 col. 3-4, lines 54-45 triggers Roderick) and (col. 2, lines 55-63 and col. 4, lines 43-57 Keyson). Examiner notes that software programs must use algorithms to compute data.

11. In regards to claims 6, 20, and 33, Rosenberg as modified by Keyson teaches wherein the predetermined criteria are based on a position of a cursor controlled by the scrollwheel (col. 2, lines 55-63 and col. 4, lines 43-57 Keyson "Other software applications may benefit from the invention as well. For example, tests demonstrate that cursor positioning times and positioning inaccuracies are reduced significantly using tactile feedback in addition to the conventional visual feedback").

12. In regards to claims 7, 21 and 35, Rosenberg, Keyson and Roderick teach disclose the limitations of wherein the dynamic feedback module provides the user with different feedback responses for different priority levels of data of the application software (col. 9-10, lines 25-30).

13. In regards to claims 8 and 22 Rosenberg teaches wherein the means for resisting rotational motion of the scrollwheel comprises an electromagnetic motor (page 21, lines 1-35 and page 16, lines 19-25 and fig. 17 lines 27 "electromechanical system" Rosenberg). Examiner notes that Keyson also teaches using an electrical D.C. motor. (col. 5, lines 30-47).

14. In regards to claims 10 and 24, Rosenberg as modified Keyson teaches wherein the dynamic feedback module provides as feedback lateral motion of the scrollwheel away from the user when the user is able to enter data in the application software (fig. 4 and fig. 5 col. 3-4, lines 54-45 triggers Roderick) and (fig. 1 (112) col. 3, lines 18-43 and col. 5, lines 1-60 of Keyson).

15. In regards to claims 12 and 26, Rosenberg as modified by Keyson teaches wherein the means for providing lateral motion of the scrollwheel comprises an electromechanical switch (fig. 1 122 col. 5, lines 30-47 Keyson).

16. In regards to claim 14, Rosenberg as modifeid by Roderick teaches a system and method for a device comprising a tocuhscreen (col. 5, lines 38-53 Roderick).

17. In regards to claims 16, 28, and 29, Rosenberg as modified by Roderick teaches wherein the software module selects the feedback mode based on feedback data associated with a data page on the handheld electronic device provided by the application software (fig. 4 and fig. 5 col. 3-4, lines 54-45 triggers Roderick) and (page 20 lines 19-30 and fig. 4 (72) Rosenberg). Examiner notes that the host system must access data pages stored in RAM to know the appropriate feedback.

18. Claim 34 is rejected for the same reasoning as claim 3.

19. In regards to claim 36, Rosenberg, and Keyson as modified by Roderick teaches wherein the lateral movement of the scrollwheel is in a direction toward the user when the user is able to enter data in the application in the software (fig. 4 and fig. 5 col. 3-4, lines 54-45 triggers Roderick) and (col. 5, lines 13-47 Keyson).

20. In regards to claim 37, Rosenberg as modified by Keyson teaches wherein the lateral movement of the scrollwheel is in a direction away from the user when the user is able to enter data in the application in the software (fig. 4 and fig. 5 col. 3-4, lines 54-45 triggers Roderick) and (col. 5, lines 30-64 of Keyson).

21. In regards to claim 38, Rosenberg teaches wherein the type of feedback comprises a resistance to rotational movement of the scrollwheel (page 4-6, lines 4-31 Rosenberg).

22. In regards to claim 39, Rosenberg teaches wherein the resistance to rotational movement of the scrollwheel is absolute, and the scrollwheel cannot rotate (page 4-6, lines 4-31 and pages 21-29 lines 3-3 Rosenberg)

23. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg, Keyson and Roderick, in view of Goren et. al (7,190,351) hereinafter, Goren.

24. In regards to claim 13, Rosenberg, Keyson and Roderick fail to expressly disclose the limitations of the device comprising a keyboard. Examiner notes Roderick teaches a keypad col. 6, lines 55.

However, Goren teaches a system and method for a device comprising a keyboard (fig. 5 (140-144) col. 4, lines 1-47 of Goren).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Rosenberg and Keyson to include the use of keyboard as taught by Goren in order to also type keys into the device and to allow for an input means that is easy to learn as stated in (col. 1, lines 30-51 of Goren).

25. Claims 9, 11, 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg, Keyson and Roderick and further in view of Shahoian et al (6,693, 622) hereinafter Shahoian.

26. In regards to claims 9 and 23, Rosenberg and Keyson differ from the claimed invention in that Rosenberg, Keyson, and Roderick do not explicitly disclose wherein the means for resisting rotational motion of the scrollwheel comprises at least one mechanical clutch plate.

However, Shahoian teaches a system and method for using at least one mechanical clutch (col. 18, lines 25-34 of Shahoian).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Rosenberg, Keyson, and Roderick to include the means for resisting rotational motion of the scrollwheel comprises at least one mechanical clutch plate as taught by Shahoian in order to provide a means of varying the vibrations magnitude by means of stopping the motor as stated in (col. 18, lines 23-34 of Shahoian).

27. In regards to claims 11 and 25, Rosenberg and Keyson differ from the claimed invention in that Rosenberg and Keyson do not explicitly disclose wherein the means for providing lateral motion of the scrollwheel comprises a cam mechanism.

However, Shahoian teaches a system and method for using a cam mechanism (fig. 12 342, 346 and 350 col. 18, lines 1-34).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Rosenberg and Keyson to include the wherein the means for providing lateral motion of the scrollwheel comprises a cam mechanism as taught by Shahoian in order to provide a means of varying the vibrations magnitude by means of stopping the motor as stated in (col. 18, lines 1-34 of Shahoian).

***Response to Arguments***

28. Applicant's arguments with respect to claims 1-39 have been considered but are moot in view of the new ground(s) of rejection.

Applicants note the amended claims require the handheld device to have application software on it. The newly cited Roderick reference teaches use of portable handheld device (col. 1-2, lines 27-67 and col. 3-4, lines 54-34 Roderick also see col. 6, lines 26-49). The handheld devices of Roderick contain software applications contained on the device (col. 4, lines 34-67 Roderick).

Applicant contends the control knobs of Rosenberg cannot be considered the same as the scrollwheel of the current claim. Examiner respectfully disagrees. First, Rosenberg teaches various means of input devices. Fig. 1 (16) and fig. 3b (68) depicts a different scrollwheels as well as control knobs. Second, the current claim language does not distinguish between these different input means. Although the claims are interpreted in light of the specification, limitations from the specification are not read into

the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant contends that a jolts does not attract or repel the wheel from a particular rotational position. Examiner respectfully disagrees. The jolt is felt in the finger, thus the wheel is displaced.

In response to applicant's argument that the trackball of Keyson would not be obvious to combine with the scrollwheel of Rosenberg , the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Examiner notes Rosenberg teaches a force feedback wherein a wheel sensor provides a wheel signal to a host indicating a rotary position of the wheel and a wheel actuator coupled to the rotatable wheel applies a computer-modulated force to the wheel about the axis (abstract). The feedback is all in response to a rotation force, i.e. if no force was applied to the wheel, then a feedback would not be received.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Piot et al. 6,809,727 Roller with tactile feedback

29. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GRANT D. SITTA whose telephone number is (571)270-1542. The examiner can normally be reached on M-F 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on 571-272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sumati Lefkowitz/
Supervisory Patent Examiner, Art Unit 2629

/Grant D Sitta/
Examiner, Art Unit 2629
November 17, 2009